

**CLAIMS**

## 1. Furniture hinge comprising:

- a fixing arm (1) for fixing to a piece of furniture,
- means for fixing to a door of said piece of furniture, incorporating a box (6),
- 5 - first (3) and second (2) rockers, forming an articulated quadrilateral and joining said fixing arm (1) to said box (6) so as to allow reciprocal pivoting thereof,
- a connection element (16, 16', 16") fixed to the first rocker (3),
- damping means (13, 13', 13", 13'") of said reciprocal pivoting comprising a slider (18, 18', 18", 18'") controlled in translation by the connection element (16, 16', 16")
- 10 and suitable to translate according to a first direction corresponding to a pivoting of the hinge,  
said slider (18, 18', 18", 18'") cooperating with kinematic means for motion conversion suitable to convert a translational motion of the slider into a damping pivoting motion, the hinge being characterized in that
- 15 the damping means (13, 13', 13", 13'") comprise a housing (14, 14', 14", 26"), separate from said box (6), enclosing said slider (18, 18', 18", 18'"), damping moving elements (21, 23, 23', 23") and said kinematic means for motion conversion, and are provided with fast connection means (7, 8) to said box so that said slider and said damping moving elements are suitable to be assembled with one another with
- 20 the housing so that said damping means form a single element suitable to be fixed to one end of said box (6) in a single operation.

2. Hinge according to claim 1, wherein said fast connection means are pins (7, 8) suitable to engage first holes (70, 71, 70', 71', 70", 71", 90, 91, 90', 91') of the housing (14, 14', 14", 26', 26") and second holes (80, 81, 80', 81', 80", 81") of the box (6).

3. Hinge according to claim 1, wherein said damping moving elements (21, 23, 23', 23") are circular in shape, immersed in a viscous means which wets the outer surfaces thereof, and suitable to pivot about an axis perpendicular to the first direction so as to cause a braking force corresponding to movements of the hinge.

30 4. Furniture hinge according to claim 3, wherein said damping moving elements comprise a flat shaped disc (23, 23', 23").

5. Furniture hinge according to claim 3, wherein said damping moving elements comprise cylinders (21).

6. Furniture hinge according to claim 4, wherein the kinematic means for motion conversion comprise a groove (24) in the form of a cam produced on the disc (23) and a tappet element (25) fixed to the slider (18').
7. Furniture hinge according to claim 4, wherein the kinematic means for motion conversion comprise a series of spiral grooves (30, 30'') on the disc (23', 23'') and a protuberance (29, 29'') fixed on the slider (18'', 18''') which engages with at least one groove (30, 30'') shaped to cause pivoting of the disc (23', 23'').
8. Furniture hinge according to claim 7, wherein the spiral grooves (30, 30'') have profiles with saw tooth sections and the protuberance (29, 29'') on the slider (18'', 18''') has a profile with a section having a complementary shape to the profiles of the grooves (30, 30'').
9. Furniture hinge according to claim 8 wherein the protuberance (29, 29'') and the profile of the grooves (30, 30'') are shaped to interact only in one direction of translation of the slider (18'', 18''').
10. Furniture hinge according to claim 5 wherein the slider (18) is provided with a series of peripheral teeth (19) which are suitable to engage arms (20) projecting from the perimeter of the cylinders (21) so as to produce a rotation of the cylinders about an axis thereof.
11. Furniture hinge according to claim 9, wherein the protuberance (29'') on the slider (18'') is provided with a substantially pointed end (42), suitable to press on the profiles with saw tooth sections of the spiral grooves (30'') during closing of the door starting from a partially open position of the door itself.
12. Furniture hinge according to claim 4 or 7, wherein there are provided suitable circular grooves (40') and ribs (41') on the lower surface of the disc (23'') coupled respectively to complementary ribs (41) and grooves (40) provided on a base (26'') of the hinge.
13. Method for assembling a furniture hinge according to one or more of claims from 1 to 12, which provides for:
  - a first assembly of a hinge comprising a fixing arm (1) for fixing to a piece of furniture, means for fixing to a door of said piece of furniture, incorporating a box (6), first (3) and second (2) rockers, forming an articulated quadrilateral and joining said fixing arm (1) to said box (6) so as to allow reciprocal pivoting thereof;

- a second assembly of a slider (18, 18', 18'', 18'''), of kinematic means for conversion of a translational motion of the slider into a damping pivoting motion and of damping moving elements (21, 23, 23', 23'') in a housing (14, 14', 14'', 26'');
- fixing of said housing to one end of said box (6) of the hinge in a single operation by means of fast connection means (7, 8).

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